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CRE COMMISSION DE RÉGULATION DE L'ÉNERGIE

ERSE Forum

Biomethane: Potential and the road ahead

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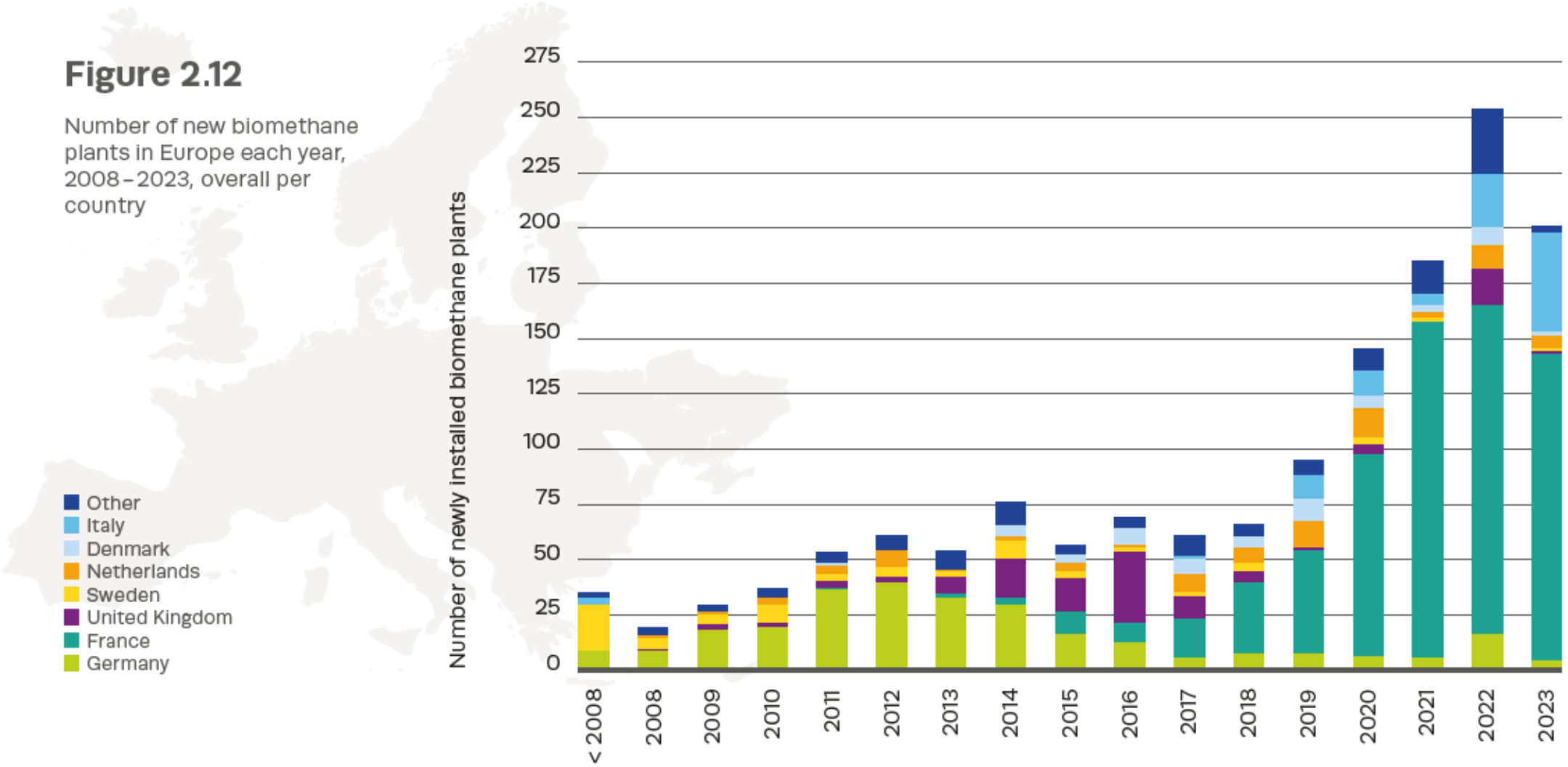
French leadership in the sector

Figure 2.12

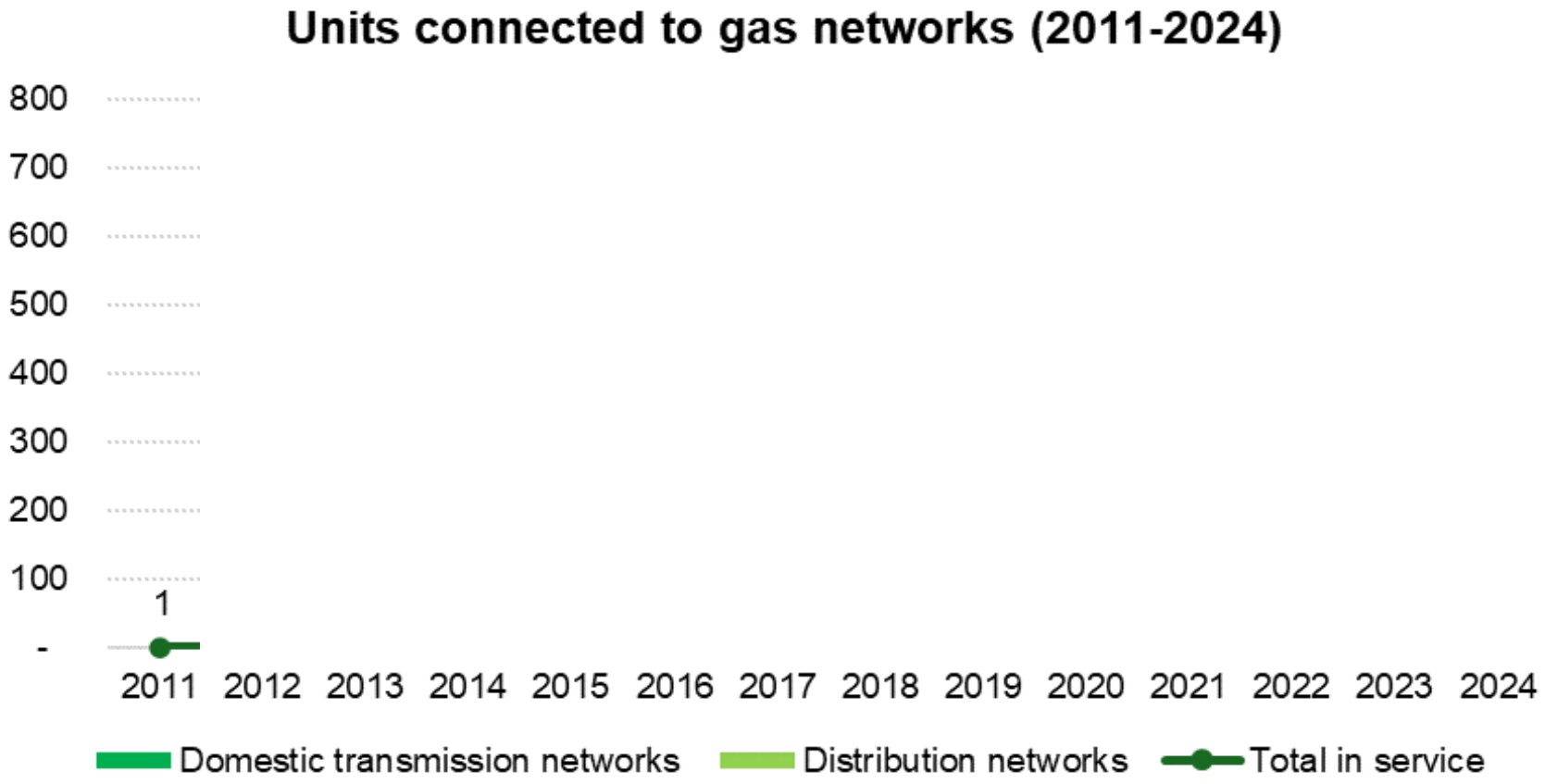
Number of new biomethane plants in Europe each year, 2008–2023, overall per country



Source: European Biogas Association Statistical Report 2024

Back to the early days of the sector

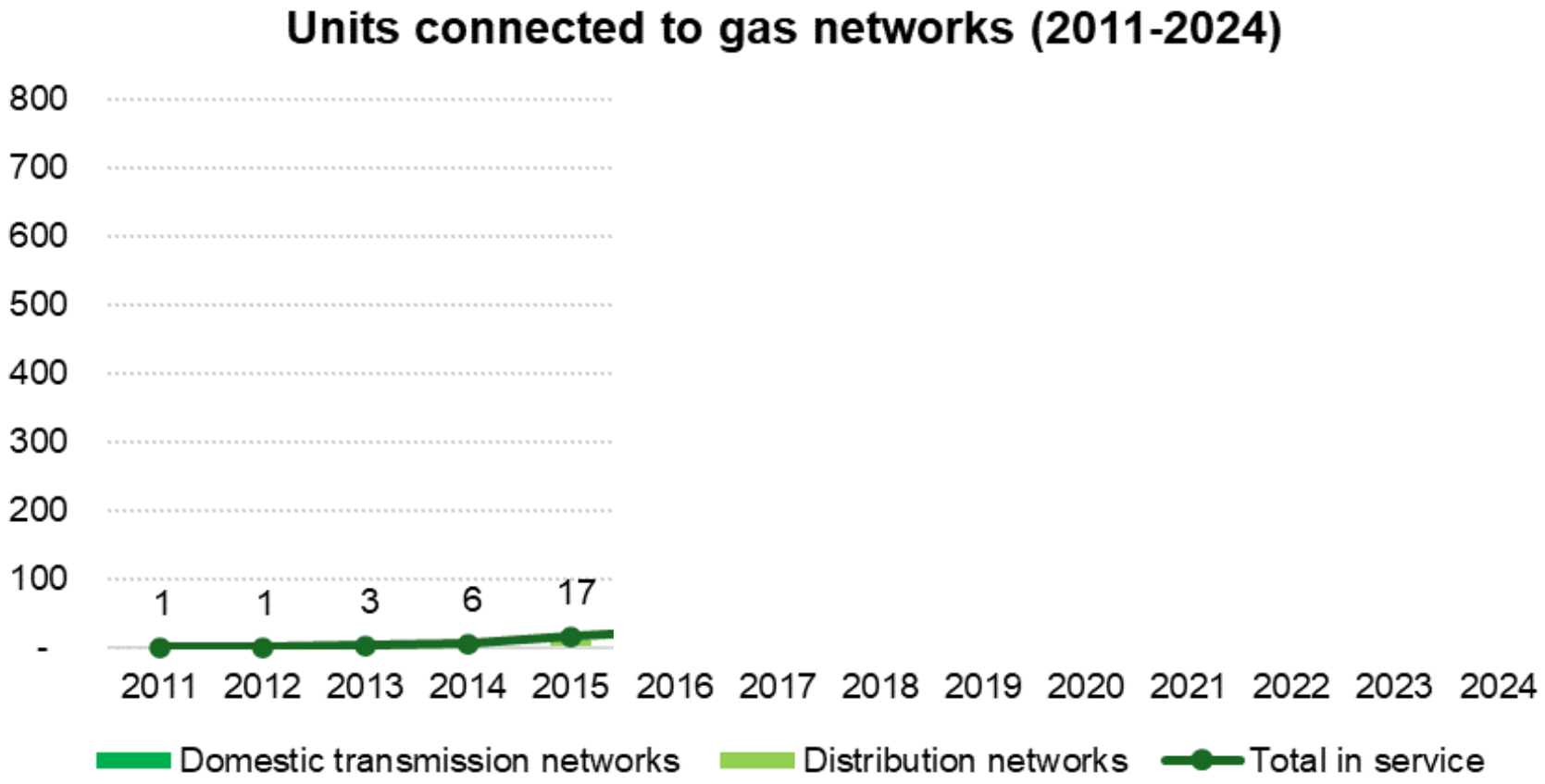
- Biogas injection into gas networks authorized in France since 2011.
- A **feed-in tariff** support scheme implemented at the same time.



Source: *Open Data Gaz* https://opendata.reseaux-energies.fr

Back to the early days of the sector

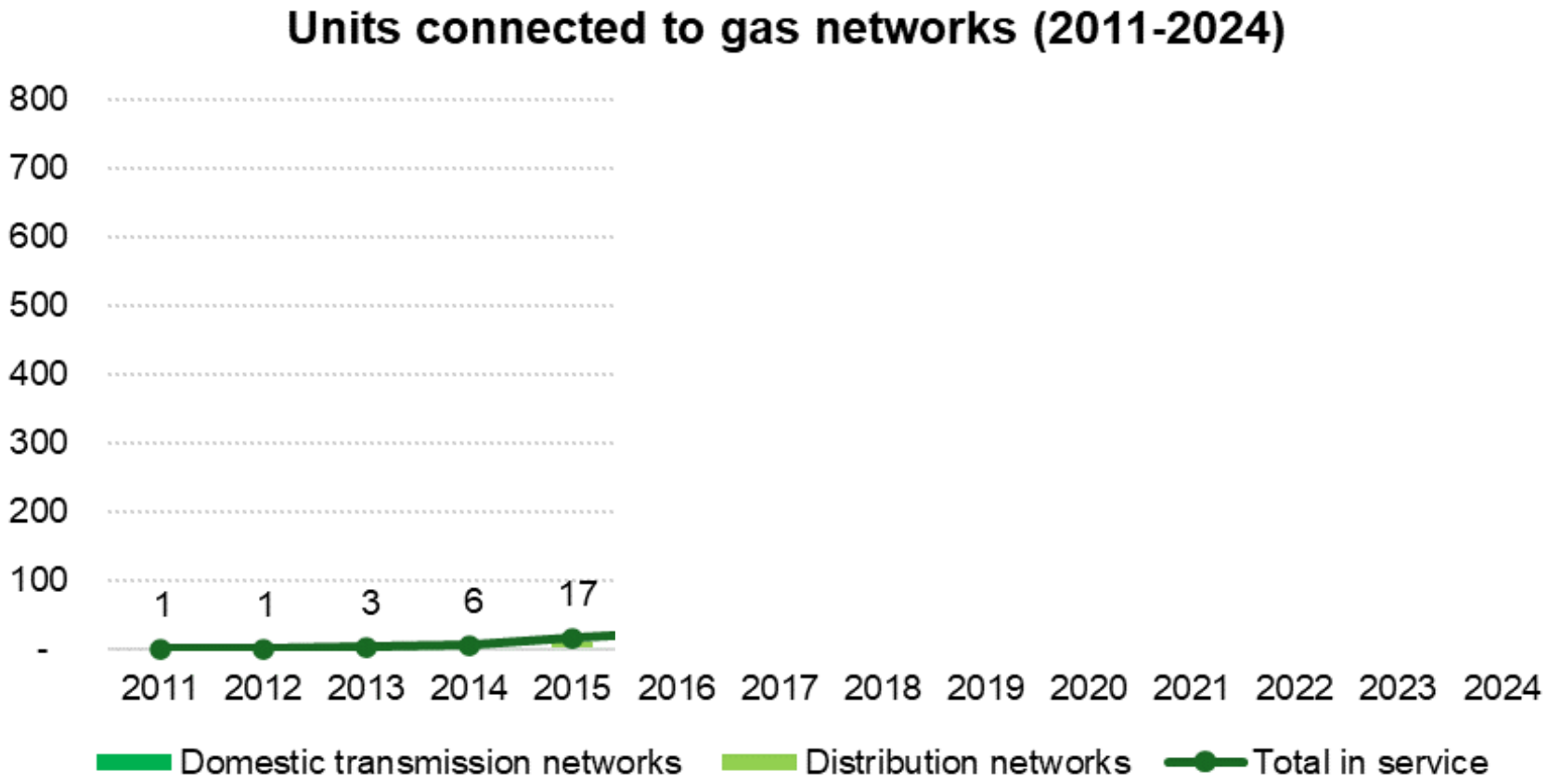
- Biogas injection into gas networks authorized in France since 2011.
- A **feed-in tariff** support scheme implemented at the same time.
- **Energy Transition Law of 2015 :** target of 10% renewable gases injected into gas networks by 2030.



Source: *Open Data Gaz* https://opendata.reseaux-energies.fr

Back to the early days of the sector

- Very slow dynamic in the sector because of barriers to access the networks:
  - **Network access costs** (connection & mutualised assets) in large part **paid by the producer**.
  - System of **'first come, first pay'** → **'first-mover disadvantage'**.



Source: *Open Data Gaz* https://opendata.reseaux-energies.fr

Making things happen

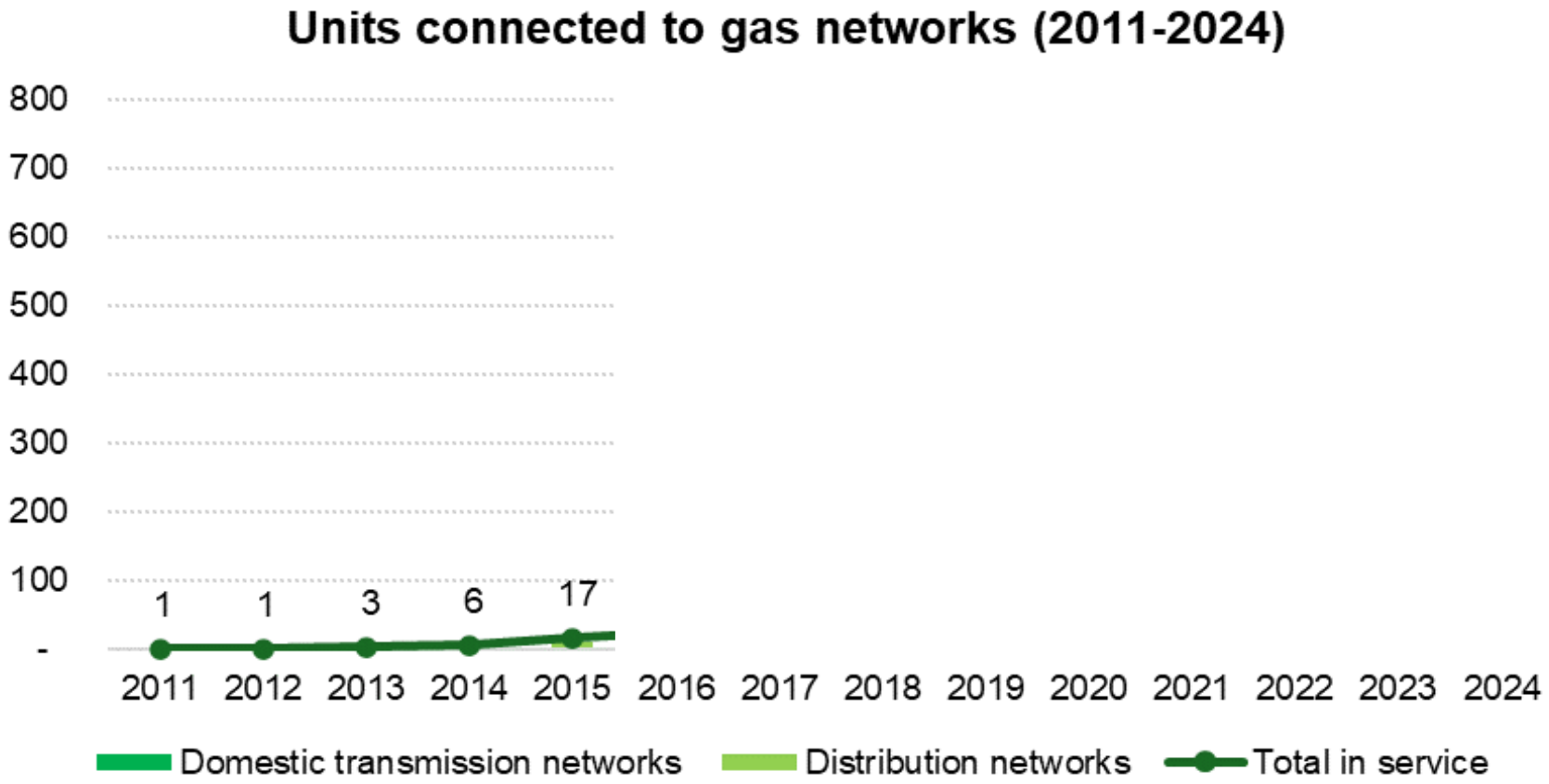
- **EGalim Law of October 2018** introduced the '**injection right**' principle:
  - ✓ right for producers to access the network under technical-economic conditions
  - ✓ facilitate financing modalities for network's adaptation and reinforcement investments
    - ➢ **cost-discount** and **cost-sharing** measures

- **CRE's decision of 14 November 2019** implemented the new framework.

- Principles of **injection right**:
  - ✓ design and validation of **connection zonings**
  - ✓ capacity registry and **waiting list system** to manage connection request
  - ✓ law provides for a **connection cost-sharing mechanism** between producers (40%) and operators (60% up to 600k€)
  - ✓ system of cost-sharing of **mutualised assets** in a zone
  - ✓ system of **full cost pass-through for network reinforcements** (meshing and reverse-flows) provided the technical-economic criterion is met

Efforts have paid off

- Implementation of the ‘injection right’ in 2018 led to a **steady increase** of grid access requests and network connections



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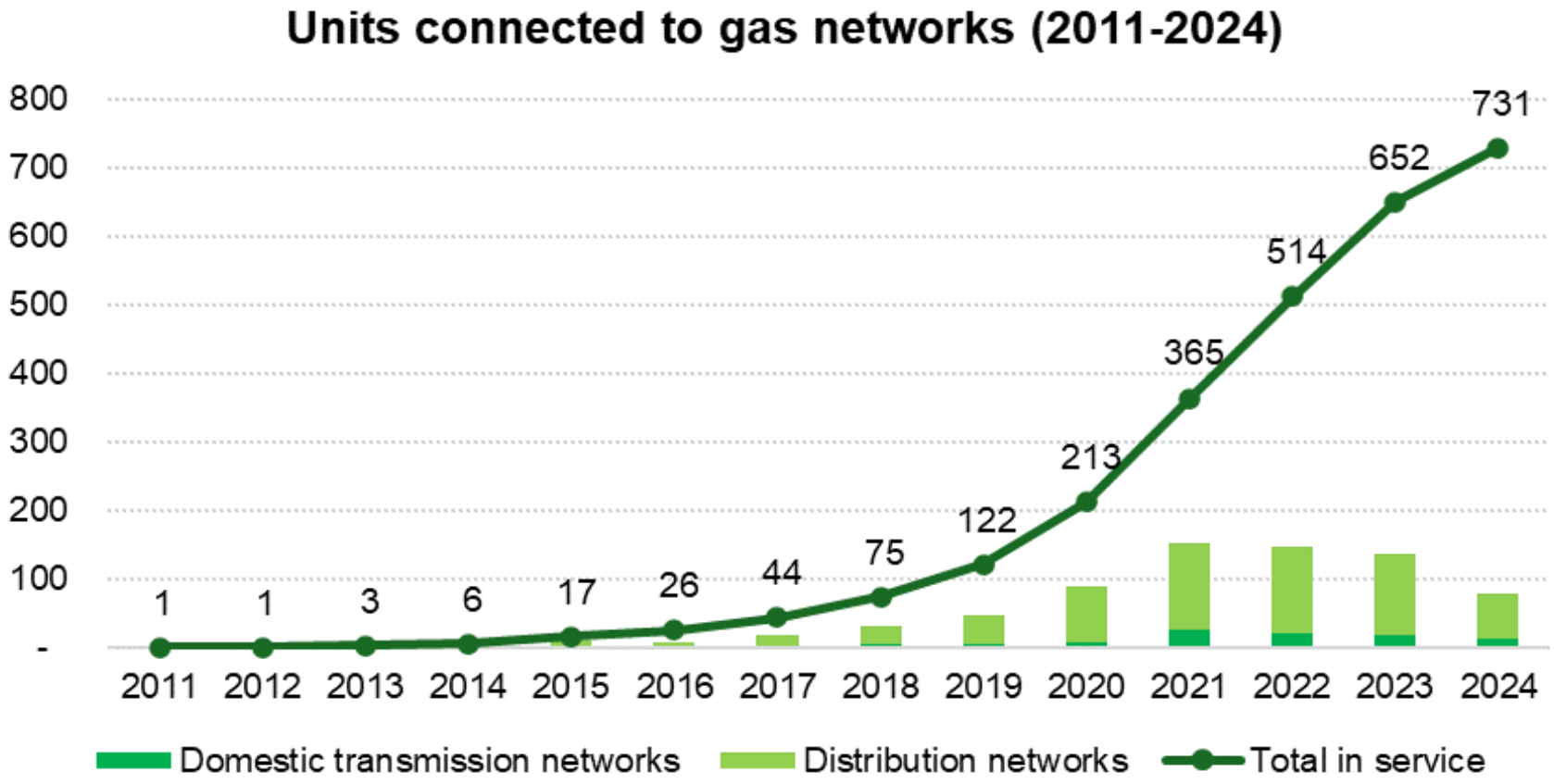

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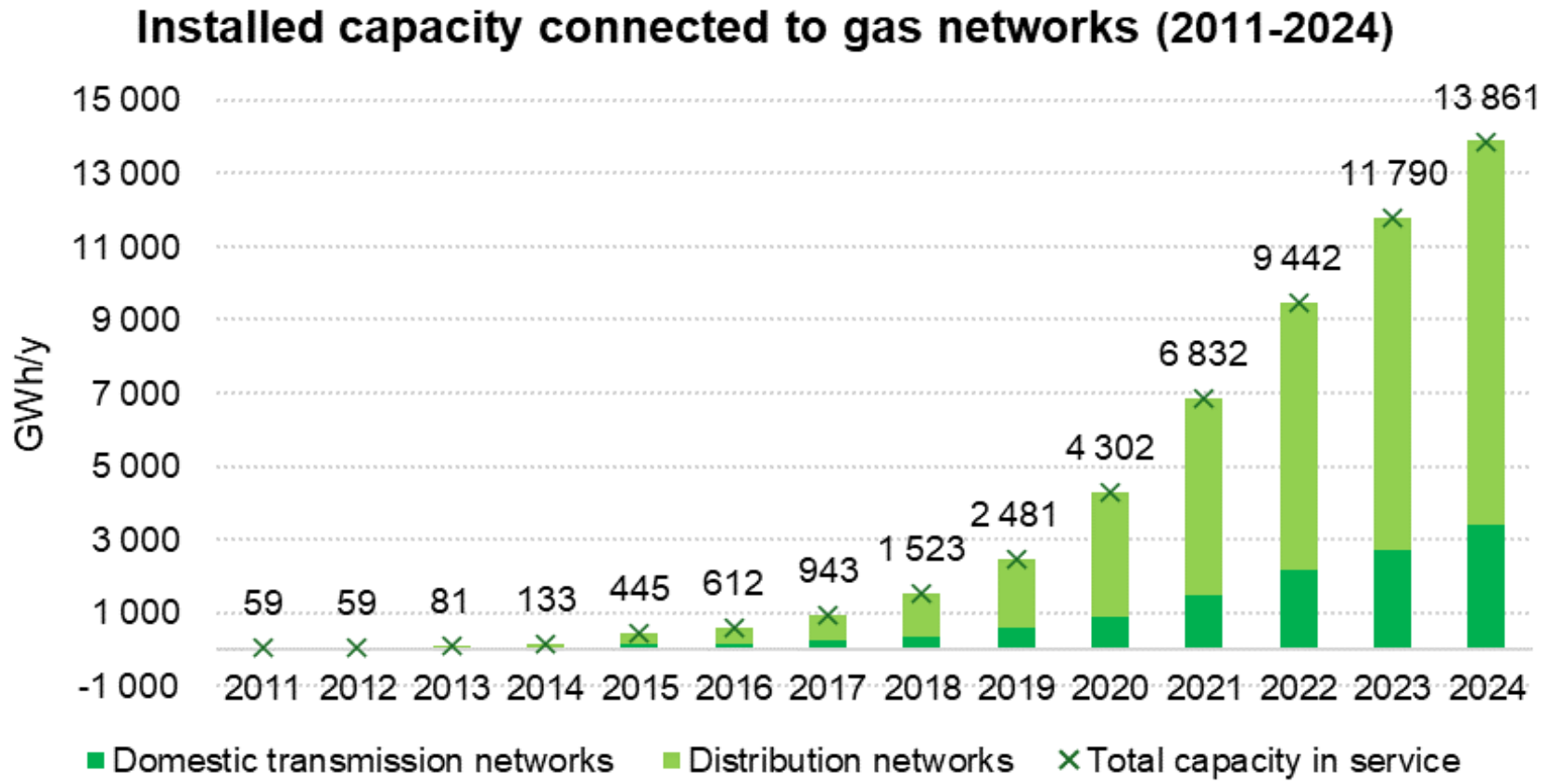
- **Installed production capacity ~13,9 TWh/y end of 2024** (x9 vs. 2018)



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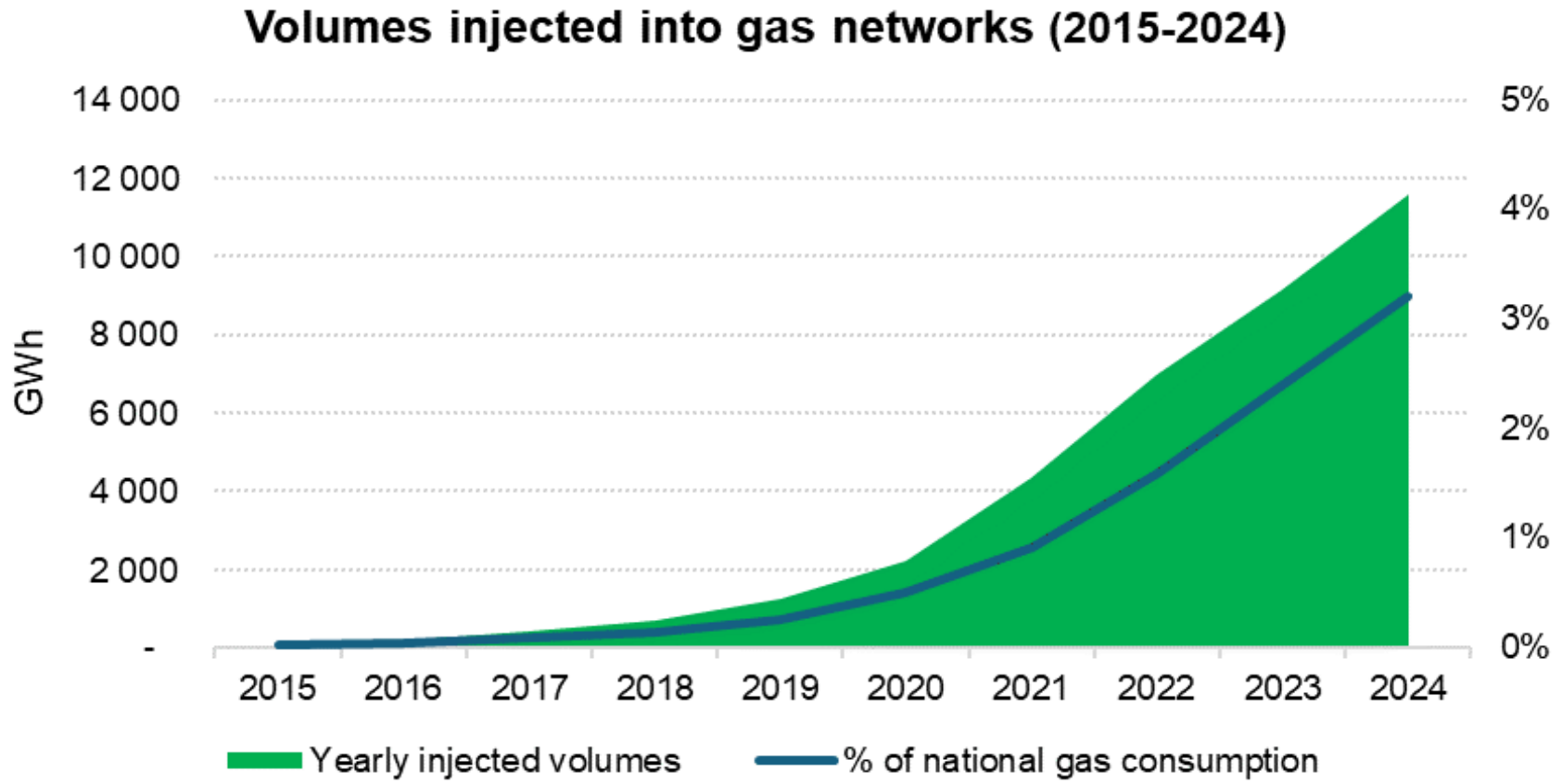
Efforts have paid off

- Implementation of the ‘injection right’ in 2018 led to a **steady increase** of grid access requests and network connections: 731 installations connected as of end 2024.
- **Installed production capacity ~13,9 TWh/y end of 2024** (x9 vs. 2018)
- **Injected volumes: 9 TWh** in 2023 (vs. 6 TWh target) and **11,6 TWh in 2024**
  - ~3,2% of national gas consumption in 2024



Source: *Open Data Gaz* https://opendata.reseaux-energies.fr

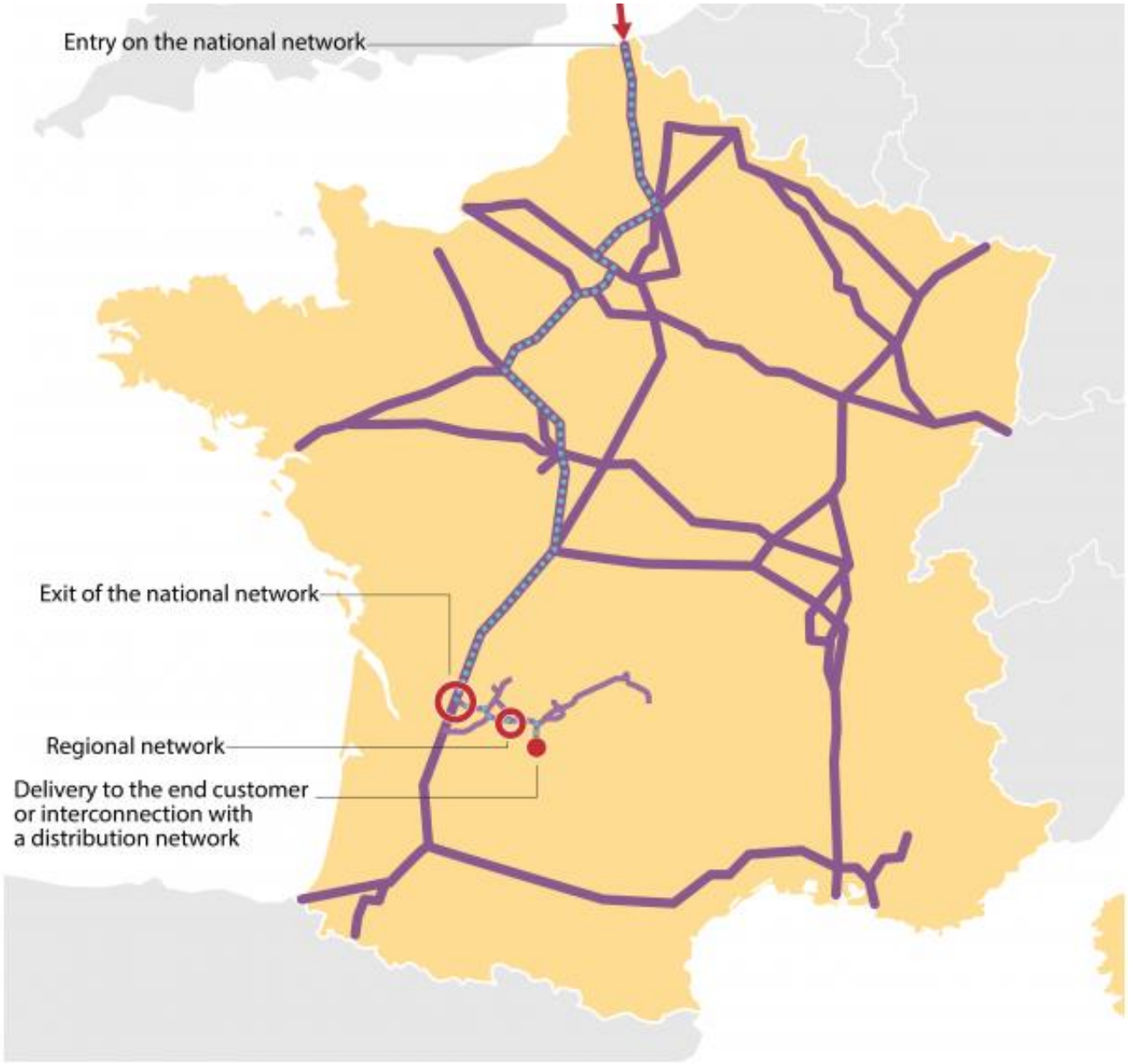
Planning biomethane access to networks

- Natural gas system **designed to supply gas from limited number of entry points on transmission networks to consumption sites located on domestic networks**

- French gas system:
  - Main transmission grid (TSOs)
  - Regional transmission grid (TSOs)
  - Distribution grids (DSOs)

- Decentralized injection of renewable and low-carbon gases is **a revolution for the system**.

- **Network adaptations** needed.



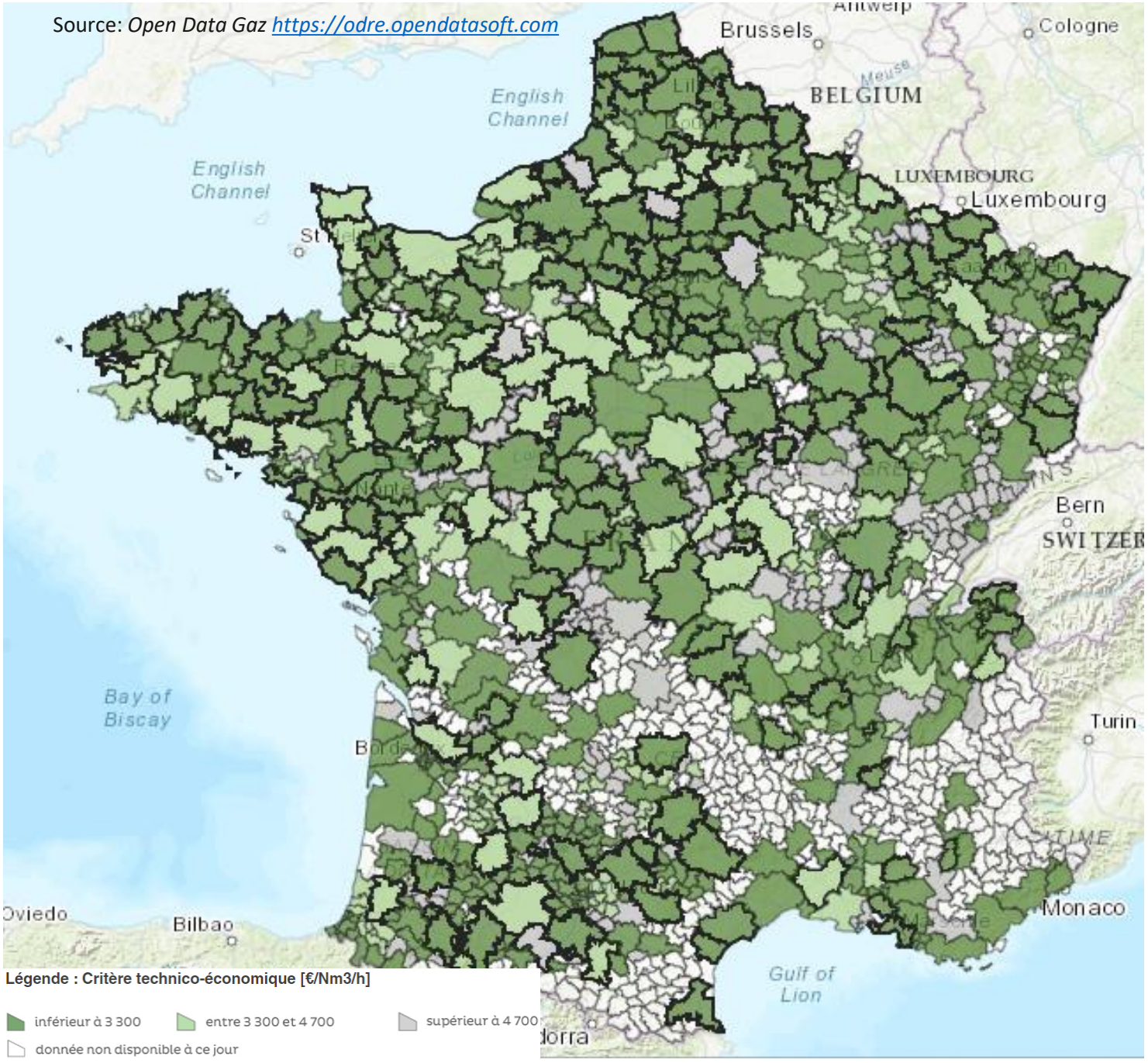
Source: CRE

Connection zonings – planning tool for grid access

- DSOs and TSOs a **mapping of the network access conditions** – the connection "**zoning**" ('*zonage de raccordement*').
- Each zoning is…
  - established after local stakeholders' consultation
  - submitted by SOs for approval to the regulator CRE
  - valid for up to 2 years
- CRE assesses the **relevance of grid reinforcements** identified by SOs.
- Zonings provide **useful information for project promoters**:
  - Technical conditions to access the network in each zone
  - Financial conditions in the zone and level of associated costs
- Establishment of each zoning is essentially based on 2 inputs:
  - Production potential in the area (volume)
  - Reinforcement investments needed in the area to welcome production units (investment)
    - → Technical-economic criterion "I/V" (€/Nm3/h)
- For each zoning, the **I/V ratio** is calculated based on these assumptions.
  - Zones with a I/V ratio < 4.700 €/Nm3/h : eligible for full passthrough of network reinforcement costs
  - Zones with a I/V ratio > 4.700 €/Nm3/h : not eligible for full passthrough of network reinforcement costs
    - → Project promoters can (i) wait for an update of the zoning or (ii) financially participate in the network reinforcement costs ('third-party financing')

Connection zonings – planning tool for grid access

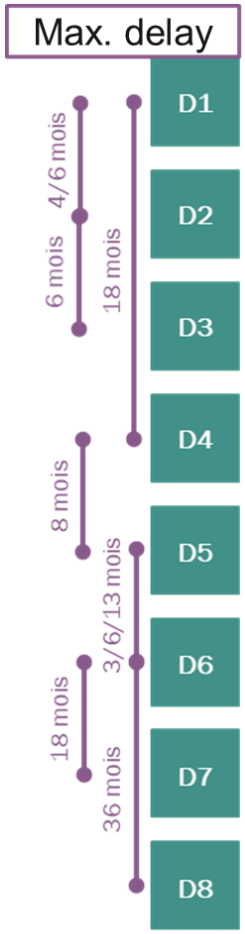
Source: *Open Data Gaz* https://odre.opendatasoft.com



Connection zonings – planning tool for grid access

- 2 other essential elements:
  - **Gas consumption** in the area
  - **Production capacity** (existing and forecast)
    - → Capacity registry

- **Capacity registry** managed by TSOs:
  - Installed production capacities
  - New capacities in the waiting list
    - → Production capacities are taken into account with their likelihood of realisation (depending on their status in the waiting list)



Entry into the waiting queue
SO receives the feasibility study request by project promoter

Submission of the detailed study
Project promoter receives the study from SO

Agreement-in-principle
Project promoter confirms continuation of the process, with conditions of the study

Application file submission for environmental acceptance
Project promoter provides SO with confirmation of receipt of the dossier submission to local authorities

Admissibility confirmation
Project promoter provides SO with confirmation of admissibility of the application

Authorization to exploit
Local authority provides authorization 2/5/12 months after file submission and project promoter has 1 month to forward it SO

Contract signature
Project promoter sends signed connection and injection contracts to SO

Installation commissioning
Project promoter sends SO the commissioning confirmation

Source: CRE

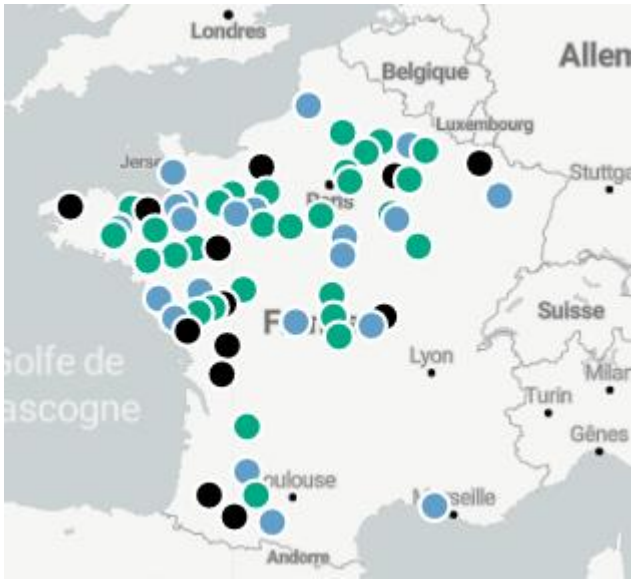
Significant investments have been carried out

- CRE in charge of examining and approving network reinforcement projects:

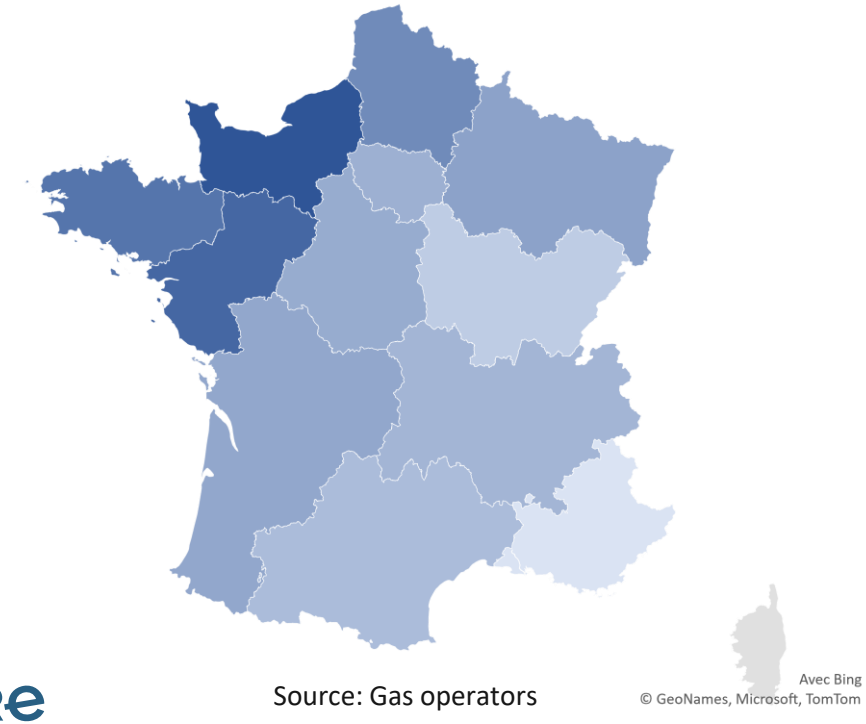
  – **Backhaul capacities** are expensive investments

  → To date ~200M€ investments by TSOs

  - 28 reverse flow compressors in service (~3 500 GWh/y)
  - 22 reverse flow compressors in construction (~2 000 GWh/y)
  - 13 reverse flow projects (~200 GWh/y)



Source: Gas operators



Source: Gas operators

– DSOs are responsible for building **meshing grids**

→ To date ~275M€ investments by DSOs

- ~2 500 km of meshing pipes

Useful links

- CRE decision implementing the injection right framework (2019): https://www.cre.fr/fileadmin/Documents/Deliberations/import/191114-2019-242-INJECTION_BIOMETHANE.pdf

- French gas operators annual report on renewable gases (2024): https://www.natrangroupe.com/sites/default/files/2024-04/panorama-des-gaz-renouvelables-2023.pdf

- CRE audit report on the technical & economic conditions of biomethane production (2024): https://www.cre.fr/actualites/toute-lactualite/la-cre-publie-le-rapport-de-synthese-des-resultats-de-son-audit-des-donnees-techniques-et-economiques-des-installations-de-production-de-biomethane-injecte.html

- CRE's last decision on connection zonings (2025): Délibération de la CRE du 6 mars 2025 portant validation des zonages de raccordement dans le cadre de l'insertion des gaz renouvelables ou bas-carbone dans les réseaux de gaz

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